Drayer D. Sivertsen

(206)-992-7584 | drayer.sivertsen@wsu.edu | Linkedin: drayersivertsen
GitHub: DrayerSivertsen

Education

Bachelor of Science, Computer Science; GPA 3.97 **2020 - 2023**
Washington State University, Pullman, WA
Summa Cum Laude

Technical Skills

C, C++, Python, C#, Embedded and Real-Time Operating Systems, Linux (Ubuntu), AWS Services, Flask, Git
Certifications: AWS Certified Developer – Associates, AWS Cloud Practitioner, Microsoft Azure Fundamentals

Work Experience

Cloud Support Associate Intern **May 2022 – August 2022**
Amazon Web Services, Seattle, WA

- Demonstrated excellence in AWS CI/CD pipelines, AWS CLI, and AWS service APIs, resulting in an Associate AWS Developer certification
- Developed EC2 launch scripts to configure the instance and install an Apache web server with PHP and MariaDB, resulting in a fully functional web application scaled in 30% of the time
- Designed and hosted a WordPress site deployed through AWS Elastic Beanstalk to showcase skills acquired through the internship
- Experimented with AWS best practice by throttling a running web service with 100,000 concurrent HTTP connections and then configuring elastic load balancing to remediate the traffic effectively
- Collaborated with peers and the Amazon Web Services global team of full-time professionals as part of the AWS Cloud Support team to serve high-value customers by providing outsourced cloud expertise

Projects

Dell S3 Client Library

- Led a team of three in collaboration with Dell engineers to develop open-source S3 client libraries in Python and .NET to support metadata searching for Dell's ObjectScale product
- Extended create bucket call to support metadata search fields for Boto3 using Botocore extras processing to dynamically merge the new calls resulting in no additional changes to the original library
- Constructed Scrum Kaizen reports to make continuous improvements to the Agile sprint process, improving efficiency of subsequent sprints by 20%

Embedded Operating System Kernel

- Developed an Embedded Operating System cross compiled for ARM architecture using the C programming language to practice the basics of real time operating system optimizations
- Engineered a buffer management algorithm utilizing semaphore data structures to significantly enhance operating system performance for block device I/O, achieving 85% improvement in system reads/writes
- Performed shell initialization and login procedures across multiple serial ports to support multiple concurrent users of the operating system kernel

Linux File System

- Designed and implemented a Linux-compatible EXT2 file system using the C programming language to better understand the operating system's underlying mechanisms
- Replicated the functionality and operations of the Linux file system by emulating file system data structures for SuperBlock, GroupDescripter, Bitmaps, Inode, and Directory

Precipitation Forecast – AgAID Hackathon

- Developed machine learning models using Extreme Gradient Boosting (XGBoost) to predict precipitation in the Sacramento Basin using existing geospatial data for the 2023 AgAID Hackathon
- Utilized an Azure hosted virtual machine to store data, and process geospatial data into machine learning models to achieve 15% faster compute time
- Performed feature selection on a trained model to isolate the most important features increasing accuracy by 5% and decreasing over-fitting

Leadership

Association for Computing Machinery of WSU | Vice President

- Organized the Crimson Code Hackathon for over 300 participants with a budget of $30,000, to create an environment where participants of diverse backgrounds can enhance their programming skills

Linux Users Group of WSU | Vice President

- Presented Linux centered topics to members on a weekly basis to promote the use of Linux and Open-Source software through education

Teaching Assistant for Voiland College of Engineering & Architecture (Systems Programming)

- Administered weekly interviews to 30 students assessing their progression of Linux/Unix knowledge, then held office hours to further assist students as needed